

CLAIMS

1. A method of effecting cell-cell fusion comprising the steps of (a) providing a two part chamber with a substrate and a fluid medium containing
5 cells, (b) migrating at least some of the cells toward one side of the substrate, and (c) fusing a portion of the migrated cells in cell-to-cell contact in proximity to the one side of the substrate.

2. The method of claim 1, wherein said fusing step is further
10 defined as effectuating fusion by means selected from the group consisting essentially of an energy means, a chemical means and combination of energy means and chemical means.

3. The method of claims 1, wherein said fusing step is further
15 defined as effectuating fusion by energy means.

4. The method of claim 3, wherein the energy means is selected
from the group consisting of sound/pressure waves, light, microwaves or
electromagnetic energy and magnetically induced electric fields.

5. The method of claims 1, wherein fusing step is further defined
as effectuating fusion by chemical means.

6. The method of claim 5, wherein the chemical means is selected
25 from the group consisting of polyethylene glycol, chemical glues, surface active agents, self-curing and curable agents.

7. The method of claims 1, wherein said fusion step is further
defined as taking place prior to the cells being introduced into the chamber.

8. The method of claims 1, wherein said fusing step is further
30 defined as being a plurality of fusing steps applied simultaneously.

9. The method of claims 1, wherein said fusing step is further defined as being a plurality of fusing steps applied sequentially.

10. An apparatus for producing cell fusion, comprising:

(a) a chamber including an insert and a cuvette, said chamber having a substrate,

(b) a fluid medium for containing cells to be fused in said chamber,

(c) means for inducing migration of cells in said chamber toward one side of said substrate, and

(d) means for inducing fusion of at least a portion of the cells.

11. The apparatus of claim 10, wherein said fusion means is selected from the group consisting essentially of an energy means, a chemical means and a combination of chemical and energy means.

12. The apparatus of claims 10, wherein said energy means is selected from the group consisting of sound/pressure waves, light, microwaves or electromagnetic energy and magnetically induced electric fields.

13. The apparatus of claim 11, wherein said chemical means is selected from the group consisting of polyethylene glycol, chemical glues, surface active agents, self-curing and curable agents.

14. The apparatus of claims 10, wherein said fusion means is housed outside said chamber such that fusion takes place prior to the cells being introduced into said chamber.

15. The apparatus of claims 10, wherein said fusion means includes a plurality of fusion means applied simultaneously.

16. The apparatus of claims 10, wherein said fusion means includes a plurality of said fusion means applied sequentially.

10056458.012602